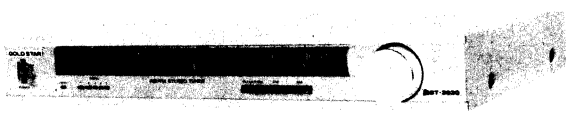
SV2-625B
SV2-625B

Gold Star Audio

SERVICE MANUAL

for service technician



Gold Star Co., Ltd.

LW/MW/FM STEREO TUNER

GST-3030

Component Series

SPECIFICATIONS

This specifications may be changed for improvement of performance without notice.

Tuning range	MW: 515-1650 KHz LW: 140-360 KHz FM: 88-108 MHz
Intermediate frequency	AM: 455(465) KHz FM: 10.7 MHz
Sensitivity	MW: 316 μV/m LW: 800 μV/m FM: 2.8 μV
Signal to noise ratio	AM: 40dB (at input 5mV) FM: 65dB
Image rejection	AM: 35dB, FM: 45dB
IF rejection	AM: 35dB, FM: 70dB
Selectivity (AM)	25 dB
Distortion	AM: 1.5% (at input 5mv) FM: 0.8% (stereo)
Frequency response	AM: 100-2500 Hz FM: 50-15000 Hz
FM stereo separation	35 dB
Semi-conductors	3IC, 14TR, 5Diode, 4Rectifier
Power consumption	4W
Weight	3Kg
Dimensions	418.5(W)x56(H)x279(D) mm

Printed in Korea Apr., 1982

SV2-625B

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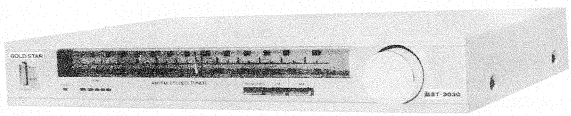
SERVICE MANUAL

for service technician



Gold Star Co., Ltd.

LW/MW/FM STEREO TUNER

GST-3030

Component Series

SPECIFICATIONS

This specifications may be changed for improvement of performance without notice.

Tuning range	MW: 515-1650 KHz LW: 140-360 KHz FM: 88-108 MHz
Intermediate frequency	AM: 455(465) KHz FM: 10.7 MHz
Sensitivity	MW: 316 μV/m LW: 800 μV/m FM: 2.8 μV
Signal to noise ratio	AM: 40dB (at input 5mV) FM: 65dB
Image rejection	AM: 35dB, FM: 45dB
IF rejection	AM: 35dB, FM: 70dB
Selectivity (AM)	25 dB
Distortion	AM: 1.5% (at input 5mv) FM: 0.8% (stereo)
Frequency response	AM: 100-2500 Hz FM: 50-15000 Hz
FM stereo separation	35 dB
Semi-conductors	3IC, 14TR, 5Diode, 4Rectifier
Power consumption	4W
Weight	3Kg
Dimensions	418.5(W)x56(H)x279(D) mm

Printed in Korea Apr., 1982

To service technician

This service manual contains detailed service information for stereo tuner Model GST-3030
Illustration of the model appears on front cover.
Please give attention to next caution.
The followings are the safety servicing guidelines for all audio amplifiers and radio receivers.
Service work should be performed only after you are familiar with all of the following safety guide.
To do otherwise increases the risk of potential hazards and injury to the user.

Safety guide

1. Be sure that all components are positioned in such a way to avoid possibility of adjacent components shorts.
   This is especially important on those chassis which are transported to and from the repair shop.
2. Always replace all protective devices such as insulators and barriers after working on a receiver.
3. Check for frayed insulation on wires including the AC cord. Also check across the-line components for damage and replace if necessary.
4. All fuses and certain resistors and capacitors which are of the flameproof type must be replaced with exact same types to prevent potential fire hazard.
5. After re-assembly of the set always perform an AC-leakage test on the exposed metallic parts of the cabinet such as the knobs, switch, etc. to be sure the set is safe to operate without danger of electrical shock.

To order repair parts

Parts orders must contain:

1. Model Number-found on front cover in this service manual
2. Part Number, Description and Quantity.

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Dial cord arrangement 2
Alignment instructions 2-6
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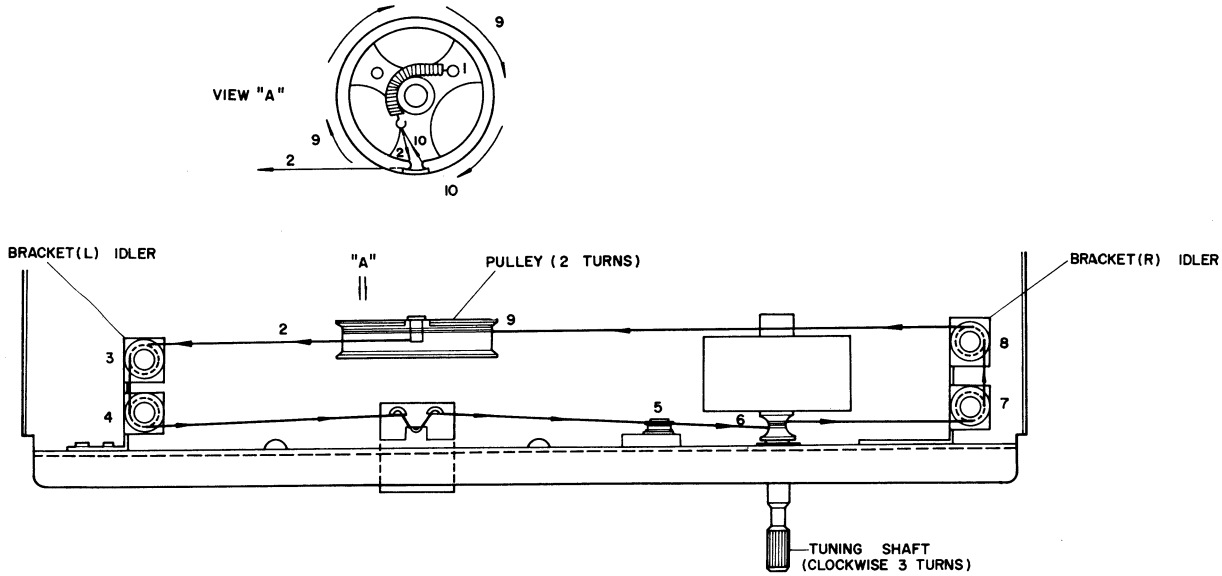
Exploded view for cabinet 15, 16

DIAL CORD ARRANGEMENT



Set the dial pointer to minimum frequency and string the cord by following the number sequence order as shown in above figure.

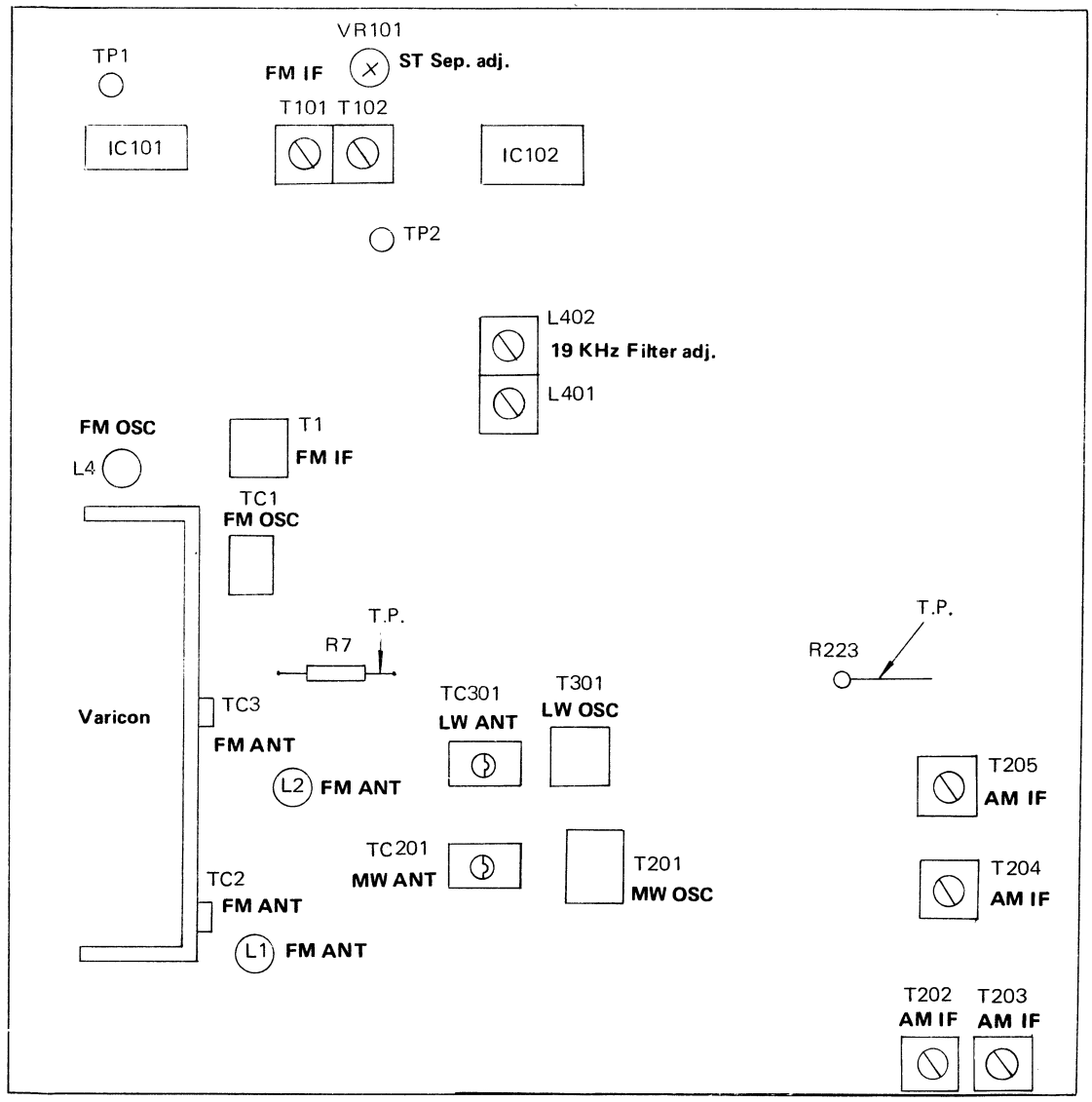
ALIGNMENT INSTRUCTIONS

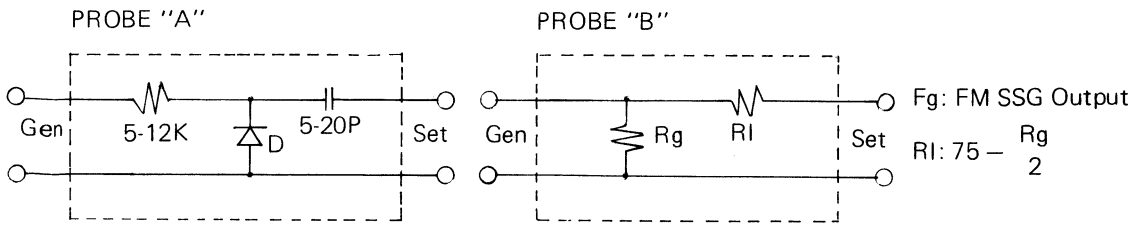
This stereo turner has been aligned at the factory and normally will not require further adjustment. As a result, it is not recommended that any attempt is made to modificate any circuit.
If any parts are relaced or if anyone tampers with the adjustments, realignment may be necessary.

Test equipment required

1. AM IF Sweep generator or AM IF generating scope.
2. Oscilloscope.
3. VTVM
4. AM SSG (with loop ant.)
5. FM IF sweep generator or FM IF generating scope.
6. FM SSG (with dummy ant.)
7. Frequency counter.
8. Stereo modulator.

Adjustment and test points





FM Alignment Chart

Step	Item		Instrument & Frequency	Test Point		Dummy Ant	Dial Setting	Adjustment point	Purpose
				Input Terminal	Output Terminal				
1	FM-IF	a	FM IF Sweep Generator and oscilloscope or FM IF generating Scope	FM-IF input (R7)	FM Det. Output (TP1)	Generator Output probe "A"	Tuning gang fully counter-clockwise (Lowest fre.)	T1 Core	Adjust for maximum gain with specified marker (10.7MHz)
		b	"	FM-IF input (L3)	FM Det. output (TP2)	"	"	T101	DC level that Muting SW is turned ON and OFF should be equal to each other. (See Fig. 1)
		c	"	"	"	"	"	T102	With T102, Curve increase and decrease in size. Adjust for maximum gain and linearlity when decreasing in size. (See Fig. 2-b)
2	FM Oscillator	a	FM SSG 87MHz (400Hz 22.5 KHz Deviation) and VTVM	Ant Input	Output Terminal	Generator Output Probe "B"	Tuning Gang fully counter-clockwise (Lowest fre.)	L4	Adjust for maximum gain.
		b	FM SSG 109MHz (400Hz, 22.5KHz Deviation) and VTVM	Ant input	Output ter.	Generator output probe "B"	Tuning gang fully clockwise (Highest fre.)	TC1	Adjust for maximum gain.
		c	Repeat the above item 2-(a), (b) for minimum change.						
3	FM Tracking	a	FM SSG 90MHz (400Hz, 22.5KHz Deviation) and VTVM	Ant. input	Output Terminal	Generator-output probe "B"	Tune to signal	L1 L2	Adjust for maximum gain.
		b	FM SSG 106MHz (400Hz, 22.5KHz Deviation) and VTVM	"	"	"	"	TC2 TC3	"
		c	Repeat the above item 3-(a), (b) for minimum change.						

AM Alignment Chart

Step	Item		Instrument & Frequency	Test Point		Dummy Ant	Dial Setting	Adjustment point	Purpose
				Input Terminal	Output Terminal				
1	AM-IF		AM IF sweep Generator and Oscilloscope, or AM IF generating scope	AM-IF input	Detector Output (R223)	Generator Output Probe "A"	Tuning-gang fully counter-clockwise (Lowest fre.)	T202 T203 T204 T205	Adjust for maximum gain with (specified marker (IF freq.)
2	MW Oscillator	a	AM SSG 515 KHz (400Hz, 30% mod) and VTVM	MW Ant.	Output terminal or Detector Output	None	Tuning-Gang Counter-clockwise (Lowest fre.)	T201	Adjust for maximum gain.
		b	AM SSG 1650 KHz (400Hz, 30% mod) and VTVM				Tuning-gang fully clockwise (Highest fre.)	TC202	
		c	Repeat the above Item 2-(a), (b) for minimum change.						
3	MW Tracking	a	AM SSG 600KHz (400Hz, 30% mod) and VTVM	MW Ant.	Output terminal or Detector Output	None	Tune to Signal	MW Ant. coil	Adjust for maximum gain.
		b	AM SSG 1400KHz (400Hz, 30% mod) and VTVM					TC201	
		c	Repeat the above item 3-(a), (b) for minimum change						
4	LW Oscillator	a	AM SSG 140 KHz (400Hz, 30% mod) and VTVM	LW ant.	Output Ter. or Detector output	None	Tuning-gang fully counter clockwise (Lowest fre.)	T301	Adjust for maximum gain.
		b	AM SSG 360KHz (400Hz, 30% mod) and VTVM				Tuning gang fully clockwise (Highest fre.)	TC302	
		c	Repeat the above item 4-(a), (b) for minimum change.						
5	LW Tracking	a	AM SSG 160KHz (400Hz, 30% mod) and VTVM	LW ant.	Output Ter. or Detector Output	None	Tune to signal	LW Ant. coil	Adjust for maximum gain.
		b	AM SSG 330KHz (400Hz, 30% mod) and VTVM					TC301	
		c	Repeat the above item 5-(a), (b) for minimum change.						

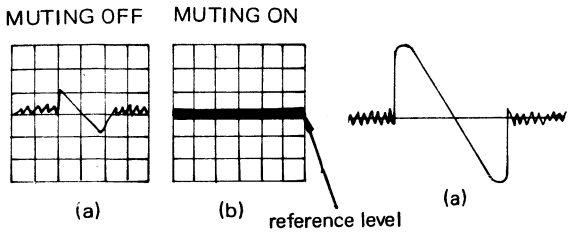


Fig. 1

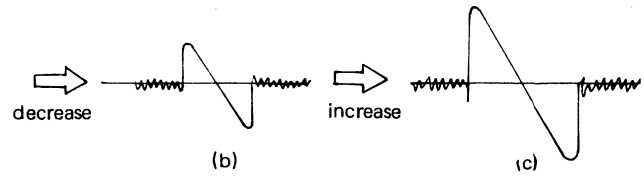
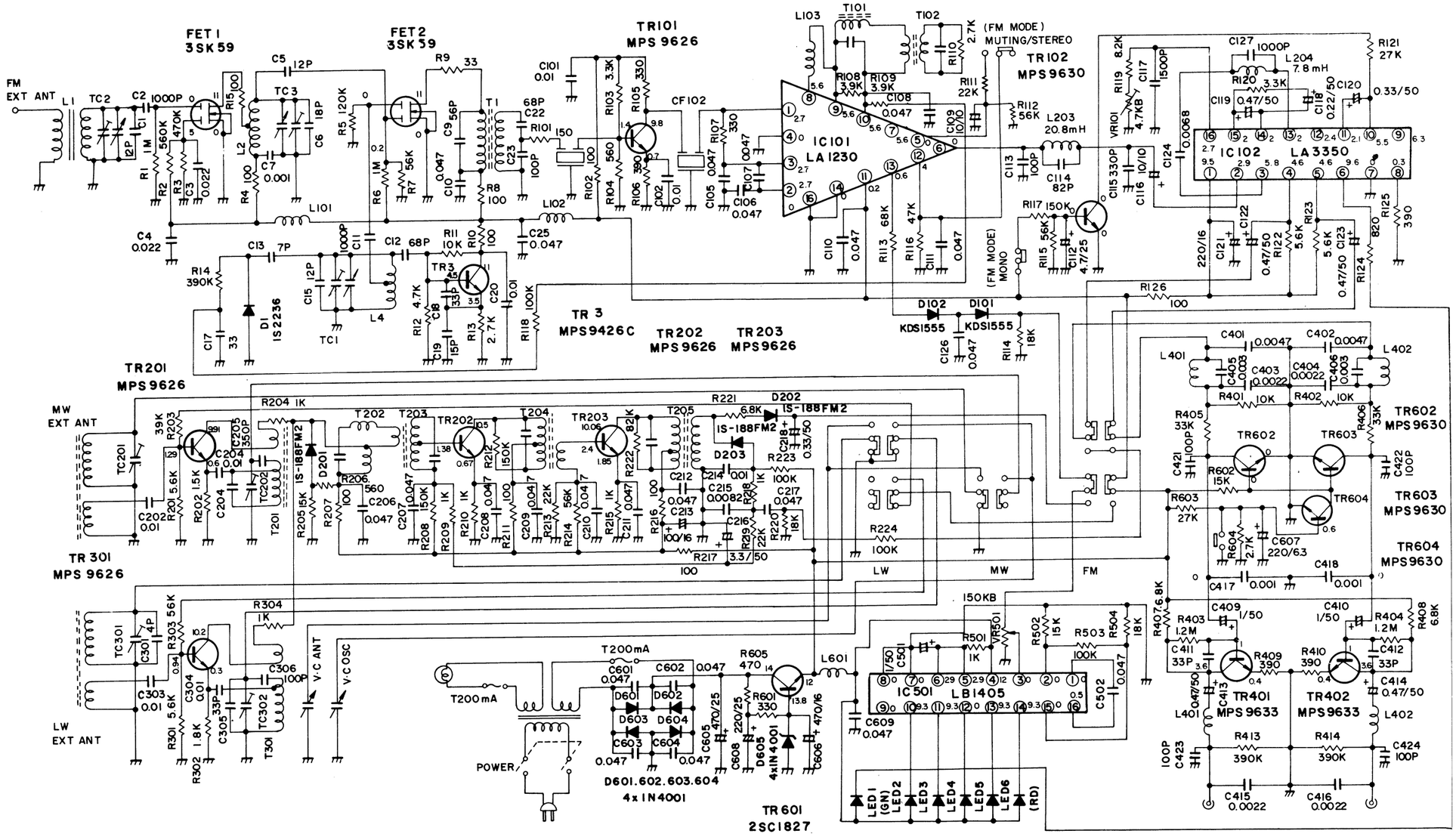


Fig. 2 IF response curve with T102

FM Mpx Alignment

Step	Item	Instrument & Frequency	Test Point		Dummy Ant	Dial Setting	Adjustment point	Purpose
			Input Terminal	Output Terminal				
1	19KHz pilot	FM SSG and stereo signal generator 98MHz (1kHz, 10% pilot mod) input: 60 dB	Ant. input	Output terminal	Generator output "probe B"	Tune to signal	L401 L402	Adjust for minimum
2	Seperation	FM SSG and stereo signal generator 98MHz (1KHz. 90% main and sub. 10% pilot mod) input: 60dB with stereo R or L with pilot	Ant input (L or R only)	SP Ter. of a channel to be not inputed	Generator Output "Probe B"	Tune to Signal	VR101	Adjust for minimum of a channel to be not inputed.

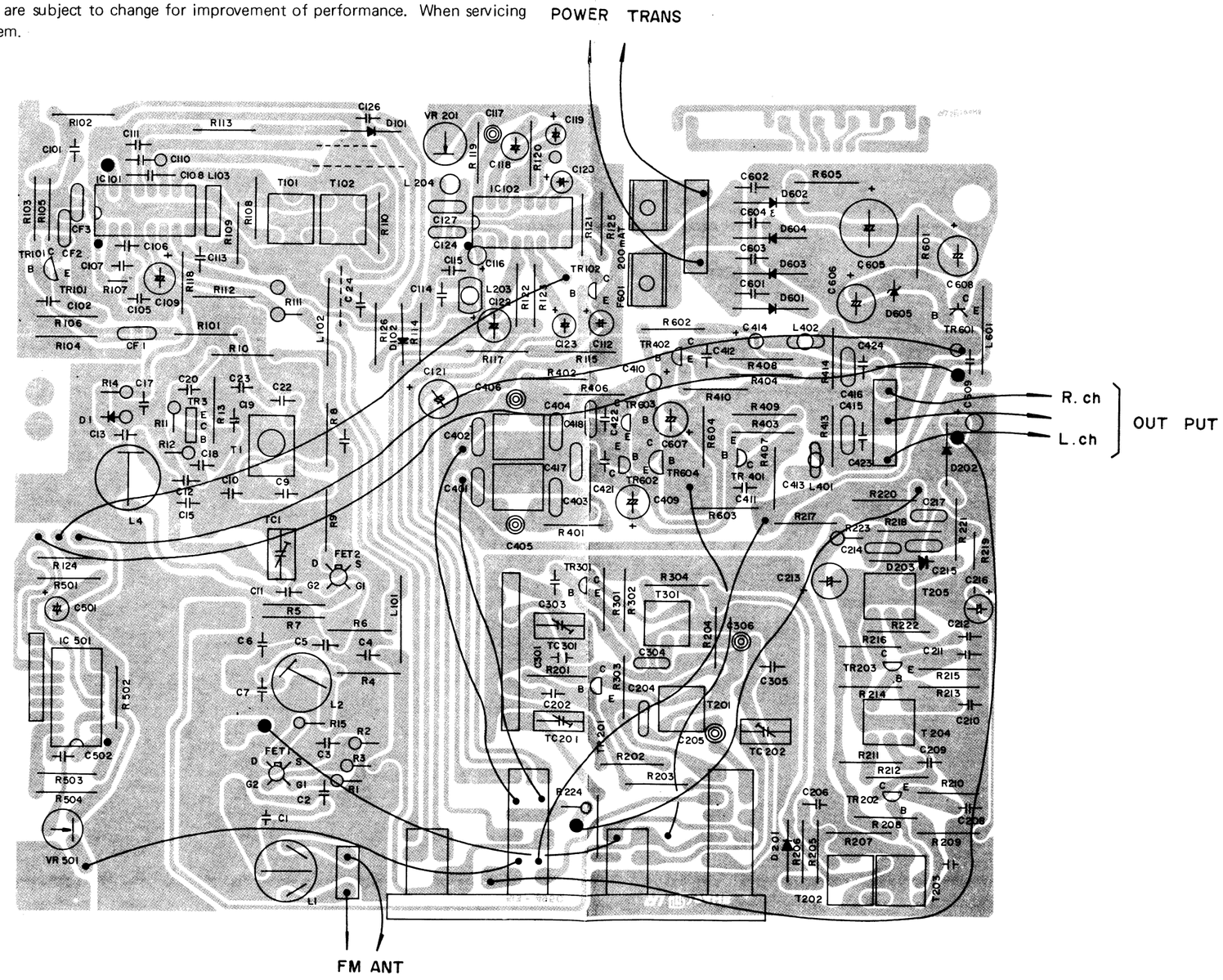
SCHEMATIC DIAGRAM



* Schematic diagram are subject to change without notice.

ELECTRICAL PARTS LOCATION AND WIRING

Circuity pattern and printing are subject to change for improvement of performance. When servicing the set, please make sure of them.



ELECTRICAL PARTS LIST

NO.	SYMBOL NO.	PART NO.	DESCRIPTION	NO.	SYMBOL NO.	PART NO.	DESCRIPTION
1		621-001B	Varicon Air C158JGK30	33	L401, 402	638-601C	Coil Trap
2	IC101	688-020A	IC LA1230(IF)	34	Function Selector	554-606J	SW UNI Push SUF 44N
3	IC102	668-025A	Integrated Circuit LA3350	35	F601,	585-102B	FUSE 5x20 SEMKO 250V 200mA
4	IC501	668-132A	IC LB1405 (Led Driver)	36	VR501	613-002E	VR, Semi-Fixed SR10R-150KB
5		667-008B	FET 3SK-59 GR	37	FOR F601	585-101A	Fuse Holder KS 5x20
6	TR3	662-607C	Transistor Motorola MPS9426C	38	R9	RD330J09	R, Carbon Film 33-J 1/4WM
7	TR101, 201, 202, 203, 301	662-048D	Transistor Motorola MPS9626G	39	R4, 8, 10, 15	RD101J09	R, Carbon Film 100-J 1/4WM
				40	R2	RD564J09	R, Carbon Film 560K-J 1/4WR
8	TR102, 602, 603, 604	662-024F	Transistor Motorola MPS9630K	41	R7	RD563J02	R, Carbon-Film 56K-J 1/4WR
9	TR401, 402	662-026B	Transistor Motorola MPS9633B	42	R12	RD472J09	R, Carbon Film 4.7K-J 1/4WM
10	TR601	665-882B	Transistor, Sanken 2SC1827-O	43	R6	RD105J09	R, Carbon Film 1M-J 1/4WM
11	D1	654N418A	Diode, AFC, Toshiba 1S2236	44	R5	RD124J09	R, Carbon Film 120K-J 1/4WM
12	D601, 602, 603, 604	652-005A	Diode, Rect 1N4001 G, 1	45	R1	RD105J09	R, Carbon Film 1M-J 1/4WM
13	D201, 202, 203	651-020A	Diode 1S188FM-2	46	D101, 102	652-015B	Diode Dect KDS 1555
14	D605	654-607A	Diode, Zener, ZPO-12, ITT.	47	R13, 110, 604	RD272J02	R, Carbon Film 2.7K-J 1/4WM
15	TC1, 201, 202, 301	623-023H	Trimmer	48	R11	RD103J02	R, Carbon Film 10K-J 1/4WM
16	L101, 601, 102	636-602B	Coil Choke 2.2MH	49	R14	Rd394102	R, Carbon Film 390K-J 1/4WM
17	L103	636-607A	Coil Choke 18MH	50	R102, 126, 207, 211, 216	RD101J09	R, Carbon Film 100-J 1/4WM
18	CF101, 102, 103	616-010A	Filter, Ceramic Sfe 107MS3G RD				
19	L1	635-607E	Coil FM RF	51	R217	RD101J09	R, Carbon Film 100-J 1/4WM
20	L2	635-607B	Coil FM RF	52	R101	RD151J09	R, Carbon Film 150-J 1/4WM
21	L4	635-407A	Coil FM RF	53	R105	RD331J09	R, Carbon Film 330-J 1/4WM
22				54	R106, 409, 410, 125	RD391J09	R, Carbon Film 390-J 1/4WM
23	T1	637-602A	Coil FM Double Tuning	55	R104, 206	RD561J09	R, Carbon Film 560-J 1/4WM
24	T101	647-604A	Coil FM Discriminator	56	R113	RD683J09	R, Carbon Film 68K-J 1/4WM
25	T102	647-604B	Coil FM Discriminator	57	R209, 210, 215, 501, 204, 304	RD102J09	R, Carbon Film 1K-J 1/4WM
26	VR101	613-002C	VR, Semi-Fixed SR194-4.7KB				
27	T201	634-601A	Coil MW, OSC	58	R124	RD821J09	R, Carbon Film 820-J 1/4WM
28	T301	634-601E	Coi Oscillator LW	59	R202	RD152J09	R, Carbon Film 1.5K-J 1/4WM
29	T202	644-609A	Coil MW IFT (Double Tuning)	60	R302	RD182J09	R, Carbon Film 1.8K-J 1/4WM
30	T203	644-609B	Coil MW IFT (Double Tuning)	61	R103, 120	RD332J09	R, Carbon Film 3.3K-J 1/4WM
31	T205	644-601A	Coil MW IFT	62	R108, 109	RD392J09	R, Carbon Film 3.9K-J 1/4WM
32	T204	644-601B	Coil MW IFT	63	R122, 123, 201, 301,	RD562J09	R, Carbon Film 5.6K-J 1/4WM

NO.	SYBMOL NO.	PART NO.	DESCRIPTION
64	R407, 408, 221	RD682J09	R, Carbon Film 6.8K-J 1/4WM
65	R119	RD822J09	R, Carbon Film 8.2K-J 1/4WM
66	R401, 402	RD103J09	R, Carbon Film 10K-J 1/4WM
67	R205, 502, 602	RD153J09	R, Carbon Film 15K-J 1/4WM
68	R114, 220, 504	RD183J09	R, Carbon Film 18K-J 1/4WM
69	R213, 219	RD223J09	R, Carbon Film 22K-J 1/4WM
70	R121, 603	RD273J09	R, Carbon Film 27K-J 1/4WM
71	R405, 406	RD333J09	R, Carbon Film 33K-J 1/4WM
72	R203	RD393J09	R, Carbon Film 39K-J 1/4WM
73	R112, 115, 214, 303	RD563J09	R, Carbon Film 56K-J 1/4WM
74	R118, 503	RD104J09	R, Carbon Film 100K-J 1/4WM
75	R117, 212, 208	RD154J09	R, Carbon Film 150K-J 1/4WM
76	R403, 404	RD125J09	R, Carbon Film 1.2M-J 1/RWM
77	R413, 414	RD394J09	R, Carbon Film 390K-J 1/4WM
78	R107	RD331J09	R, Carbon Film 330-J 1/4WR
79	R116	RD473J09	R, Carbon Film 47K-J 1/4WR
80	R223	RD104J09	R, Carbon Film 100K-J 1/4WP
81	R224	RD103J09	R, Carbon Film 10K-J 1/4WR
82	R222	RD823J02	R, Carbon Film 82K-J 1/4WM
83	R218	RD102J09	R, Carbon Film 1K-J 1/4WR
84	R111	RD223J02	R, Carbon Film 22K-J 1/4WR
85	R601	RD331J02	R, Carbon Film 330-J 1/4WR
86	R3	RD474J02	R, Carbon Film 470K-J 1/4WR
87	R605	RD471J02	R, Carbon Film 470-J 1/4WR
88	C22	CC070D06	C, Ceramic CC 7PF-D CH 50V
89	C1, 5	CC120J06	C, Ceramic CC 12PF-J CH 50V
90	C11	CK102Z02	C, Ceramic CK 1000PF-Z 50V
91	C15	CC120J04	C, Ceramic CC 12PF-J TH50V
92	C19	CC150J06	C, Ceramic CC 15PF-J CH 50V
93	C6	CC180J06	C, Ceramic CC 18PF-J CH 50V
94	C17, 305	CC330J06	C, Ceramic CC 33PF-J CH 50V
95	C9	CC560J06	C, Ceramic CC 56PF-J CH 50V
96	C12	CC680J06	C, Ceramic CC 68PF-J CH 50V

NO.	SYMBOL NO.	PART NO.	DESCRIPTION
97	C411, 412	CC330J01	C, Ceramic CC 33PF-J
98	C14,113, 23, 421, 422 423, 424	CC101J06	C, Ceramic 100PF-J CH50V
99	C7,	CK102Z02	C, Ceramic CK 1000PF-Z 50V
100	C2,	CK102Z02	C, Ceramic CK 1000PF-Z 50V
101	C3, 17, 4	CK223Z02	C, Ceramic CK 0.022MF-Z 50V
102	C16, 101, 102, 202, 24	CK103Z02	C, Ceramic CK 0.01MF-Z 50V
103	C105, 106, 604, 25, 10	CK473Z02	C, Ceramic CK 0.047MF-Z50V
104	C108,110, 111, 206 207, 208, 209, 124	CK473Z02	C, Ceramic CK 0.047MF-Z 50V
105	C210, 211, 212, 601 602, 603, 502	CK473Z02	C, Ceramic CK 0.047MF-Z 50V
106	C126, 609	CK473Z02	C, Ceramic CK 0.047MF-Z 50V
107	C417, 418	CQ102J01	C, Polyester 0.001MF-J 50V
108	C215	CQ822J01	C, Polyester 0.0082MF-J 50V
109	C405, 406	CY302J01	C, Polyester 0.003MF-J
110	C401, 402	CQ472J01	C, Polyester 0.0047MF-J 50V
111	C,403, 404, 415, 416	CQ222J01	C, Polyester 0.0022MF-J 50V
112	C304, 204, 214	CQ103J02	C, Polyester 0.01MF-J 50V
113	C205	CY351J01	C, Polystyrol 350PF-J R
114	C117	CY152J01	C, Polystyrol 1500PF-J R
115	C122, 123	CE474F01	C, Electrolytic 0.47MF 50V
116	C607	CE227A01	C, Electrolytic 220MF 6.3V
117	C109, 116	CE106B01	C, Electrolytic 10MF-10V
118	C213	CE107C01	C, Electrolytic 470MF 16V
119	C606	CE477C01	C, Electrolytic 470MF 16V
120	C112	CE475D01	C, Electrolytic 4.7MF 25V
121	C605	CE477D01	C, Electrolytic 470MF 25V
122	C118	CE224F01	C, Electrolytic 0.22MF 50V
123	C120, 218	CE334F01	C, Electrolytic 0.33mf 50V
124	C119, 413, 414	CE474F01	C, Electrolytic 0.47MF 50V
125	C409, 410, 501	CE105F01	C, Electrolytic 1MF 50V
126	C114	CC820J06	C, Ceramic CC820FO-j CH 60V

NO.	SYMBOL NO.	PART NO.	DESCRIPTION
127	C115	CC331J01	C, Ceramic CC330PF-J SL 50V
128	C124	CQ682J01	C, Polyester 0.0068MF-J 50V
130	L203	637-601D	Coil, Peaking 20.8 mH
131	L204	637-601E	Coil, Peaking 7.8 mH
132		639-602H	Coil, Peaking 5.6 mH
133	C216	CE335F01	C, Electrolytic 3.3MF 50V
134	C121	CE227C01	C, Electrolytic 220MF 16V
135	C608	CE227D01	C, Electrolytic 220MF 25V
136	For Signal Ind	653-109A	Led, National LN05202P RD
137	For Stereo Ind	653-403B	Led, Senior 2x5 GN
138	For Stereo Sep.	613N002A	VR, Semi-fixed SR19R-1RB 10D
139	C306	CY101J01	C, Polyester 100PF-JR
140	C301	CC040C06	C, ceramic CC 4PF-C CH 50V

PARTS LIST FOR CABINET EXPLODED VIEW

This parts list is only applicable to Gold Star Standard.
Be sure that all parts No's are subject to change for improvement of performance.

NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	258-644C	Panel, Front	32	273-640A	Knob, Tuning
2	276-279A	CAP, Side (R, L)	33	315-617A	Frame(M/D), Scale
3	384-050A	Guide, Power Knob	34	256-642A	Plate, Scale Deco
4	643-605A	Lens, Signal Led.	35	252-621B	Plate, Scale
5	384-616A	Guide, Push S/W 3	36	341-140B	Bushing, Guide
6	236-673A	Window, Front	37	353N025F	Screw, Special
6	213-191D	Cabinet	38	256-641A	Plate, Scale Fixer
8	313-646A	Chassis, Body	39	471-001A	Papper, Light Cover
9	321-722A	Bracket, Panel Fixer	40	353N025E	Screw, Special
10	TRQ1830J	Screw, TRQ+3x6	41	361-132A	Pointer, Dial
11	321-716A	Bracket (L), idler	42	432-0041	Spring
12	321-717A	Bracket (R), idler	44	324-432A	Holder, Inside Cover
13	434-001B	Wheel, idler	45	MCC1830J	Screw, MCC+3x6
14	434-001A	"	46	MRC1830J	Screw, MRC+3x6
15	423-248B	Shaft, Roller	47	445-065A	Spacer
16	353-610A	Screw, Special Roller	48	256-645C	Plate Back (RCA–
17	MRC1836J	Screw, MRC+3x8		256-647A	Plate, Back (DIN)
18	324-430B	Holder, Pointer Slider	49	573-047A	Socket AY, RCA
19	TRQ1822J	Screw, TRQ+3x4	50	TRQ18391	Screw, TRQ+3x10 FBK
20	421-619B	Tuning Shaft AY	51	563-016A	Screw, Terminal (2P)
21	265-003A	Foot, Rubber	52	321-479A	Braket, up ANT.
22	321-690B	Bracket, PWB	53	321-480A	Bracket Down, ANT
23	321-303A	Bracket, PWB Main	54	324-418A	Holder, ANT
24	322-605D	Supporter	55	TRQ18301	Screw, TRQ+3x6 FBK
25	321-718A	Bracket, PWB S/W	56	MRC18361	Screw, MRC+3x8 FBK
26	273-309A	Knob, Power	57	WSB1800J	Washer, Spring
27	219-037A	Housing, Led.	58	NHA1800J	NUT, NH1-3
28	TRQ1530J	Screw, TRQ+2.6x6	59	681-003D	Power Cord
29	273-639A	Knob, Push	60	324-620A	Holder, Cord-Heyco
30	386-613A	ARM, Push S/W	61	334-007A	Stopper
31	221-618B	Cover, Himelon	62	321-267A	Bracket, Fuse Holder
			63	353-052J	Screw, Special

EXPLODED VIEW FOR CABINET